Impact of presumed consent for organ donation on donation rates: a systematic review

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CRD summary
This well-conducted review assessed the impact of presumed consent legislation on organ donation rates. The authors concluded that presumed consent alone is unlikely to explain the variations in donation rates; factors such as donor availability, transplant infrastructure and social, legal and economic variables appear to play a role but their relative importance is unclear. This conclusion is likely to be reliable.

Authors' objectives
To assess the impact of a system of presumed consent for organ donation on donation rates and to examine attitudes towards presumed consent.

Searching
The following seven databases were searched without language restrictions from inception to January 2008: MEDLINE, EMBASE, CINAHL, PsycINFO, HMIC, PAIS International and OpenSIGLE. The websites of relevant organisations were also searched and references of included studies were checked. Further details of the search strategy will be available in the full report (see Other Publications of Related Interest field).

Study selection
Studies that compared organ donation rates either before and after the introduction of presumed consent or between jurisdictions with and without presumed consent were eligible for inclusion. A presumed consent system was defined as one in which a dead person is regarded as an organ donor unless they have registered their opposition prior to death. Countries with such legislation were considered to be presumed consent jurisdictions, even if normal practice required the consent of relatives. Surveys were included for the assessment of attitudes to presumed consent.

Before-and-after included studies reported data on Austria, Belgium and Singapore; between-country comparisons were predominantly based on European and other OECD (Organization for Economic Co-operation and Development) nations. These studies assessed the impact of a range of other variables in addition to presumed consent.

Two reviewers independently assessed the papers for inclusion. Disagreements were resolved through discussion and consultation with a third reviewer.

Assessment of study quality
Studies were assessed by one reviewer for selection bias, comparability of countries and cohorts, specification and credibility of source data, whether outcomes could be attributed to presumed consent, and appropriateness of the analysis. The quality assessment was checked by a second reviewer.

Data extraction
Data on donation rates and any other outcomes such as negative effects, and on contextual factors, were extracted by one reviewer and checked by a second.

Methods of synthesis
The studies were combined in a narrative synthesis grouped by study design. Differences in methodological strength and contextual factors were discussed.

Results of the review
Twenty-six studies were included in the review, of which five were before-and-after studies in a single country, eight were between-country comparisons, and thirteen were surveys addressing attitudes towards presumed consent.

Before-and-after studies: All five studies (in three countries) reported an increase in donation rates following the introduction of presumed consent. The increases were as follows: Austria - from 4.6 to 10.1 per million per year over 4
years, and up to 27.2 per million per year over the subsequent 5 years after introduction of infrastructure changes; Belgium - from 18.9 to 41.3 per million per year over 3 years; Singapore - from 4.7 to 31.3 per million per year over 3 years.

Between country comparisons: Four of the eight studies had significant limitations, being either lacking in formal statistical analysis, or having major limitations in the analysis. The four studies considered to be more rigorous examined between three and seven variables, in addition to presumed consent legislation. Of these, three studies showed a significant association between presumed consent and increased organ donation rates: 25-30%, 21-26% and 6.14 more donors per million population. The fourth study showed a positive but non-significant association of 2.7 more donors per million population.

Other factors found to be significantly associated with higher rates of organ donations were mortality from road traffic accidents (three studies), transplant capacity (one study), gross domestic product per capita and associated health expenditure (three studies), participation in higher education (one study), Catholic religion (one study) and use of common law system (two studies).

Results of eight surveys of attitudes to presumed consent in the UK were also reported, which appeared to show lower levels of approval in earlier surveys, with levels of at least 60% approval in the two surveys conducted after 2000.

**Authors' conclusions**
Presumed consent alone is unlikely to explain fully the variations in organ donation rates between countries. Legislation, donor availability, organisational and infrastructure of the transplant service, wealth and healthcare investment, and public attitudes to and awareness of organ donation may all play a role, but their relative importance is unclear. There is support for presumed consent in recent UK surveys, albeit with variations in results.

**CRD commentary**
The review question and inclusion criteria were clear but broad. The authors searched a number of relevant databases and other sources, with no language or publication status restrictions, reducing the chance that some relevant studies were excluded from the review and of publication or language bias. Rigorous methodology was employed at all stages of the review procedure. An appropriate assessment of study validity was conducted and this was used to inform the synthesis. The decision to adopt a narrative synthesis was undoubtedly appropriate and exploration of study heterogeneity was included in this synthesis. The authors’ conclusions are a clear reflection of the results of the review and are likely to be reliable.

**Implications of the review for practice and research**
Practice: The authors stated that it cannot be inferred from the review that the introduction of presumed consent legislation will lead to an increase in organ donation rates. They also stated that the findings of the review should be considered in the context of a number of other factors, including the current UK infrastructure, the recommendations from the UK Organ Donation Taskforce, public response, moral and ethical issues.

Research: The authors stated that research is required to investigate factors which may modify organ donation at the individual level, such as the way in which families of potential donors are approached to discuss donation. Both qualitative synthesis and primary research may be required in these areas. Future before-after evaluations of policy should collect contextual information to ensure that the influence of variables other than the intervention are given due weight.

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